

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

1. (currently amended) An inactive  $\text{Ca}^{2+}$ /calmodulin-dependent protein kinase II $\alpha$  (CaMKII $\alpha$ ) knockin nonhuman animal, wherein a CaMKII $\alpha$  gene of one or both of homologous chromosomes is substituted into an inactive type so that an inactive CaMKII $\alpha$  is expressed, wherein lysine corresponding to Lys-42 ~~which has at least one amino acid residue modified~~ in the catalytic domain of mouse CaMKII $\alpha$  is substituted by arginine, is expressed; and thereby a protein kinase activity of CaMKII $\alpha$  is specifically impaired while a calmodulin binding capacity of CaMKII $\alpha$  and a capacity of multimerizing subunits are maintained, and wherein the inactive CaMKII $\alpha$  knockin nonhuman animal is produced by a gene targeting method.

2-6. (canceled).

7. (previously presented) The inactive CaMKII $\alpha$  knockin nonhuman animal of claim 1, wherein the inactive CaMKII $\alpha$  knockin nonhuman animal is a rodent animal.

8. (previously presented) The inactive CaMKII $\alpha$  knockin nonhuman animal of claim 7, wherein the inactive CaMKII $\alpha$  knockin nonhuman animal is a mouse.

9. (currently amended) An inactive  $\text{Ca}^{2+}$ /calmodulin-dependent protein kinase II $\alpha$  (CaMKII $\alpha$ ) knockin cell, wherein a CaMKII $\alpha$  gene of one or both of homologous chromosomes is substituted into an inactive type so that an inactive CaMKII $\alpha$  is expressed, wherein lysine corresponding to Lys-42 ~~which has at least one amino acid residue modified~~ in the catalytic domain of mouse CaMKII $\alpha$  is substituted by arginine, is expressed; and thereby a protein kinase activity of CaMKII $\alpha$  is specifically impaired while a calmodulin-binding capacity of CaMKII $\alpha$  and a capacity of multimerizing subunits are maintained, and wherein the inactive CaMKII $\alpha$  knockin cell is produced by a gene targeting method.

10-23. (canceled)

24. (new) The inactive CaMKII $\alpha$  knockin cell of claim 9, wherein the cell is a rodent cell.
25. (new) The inactive CaMKII $\alpha$  knockin cell of claim 24, wherein the cell is a mouse cell.